



Our fight against multiply resistant bacteria

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What is the issue with antimicrobial resistance?

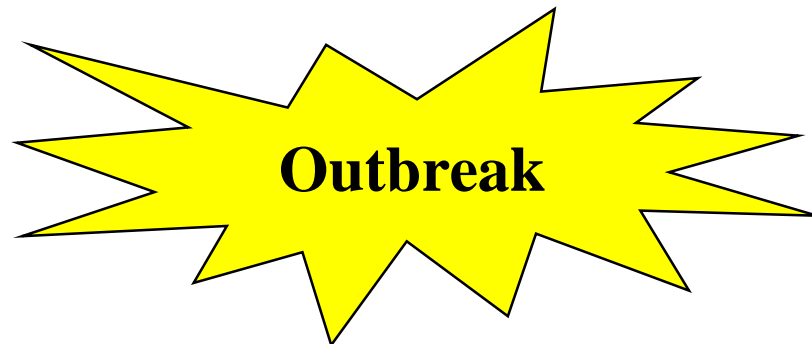
n Impact

- limited choice in therapy
- possible nosocomial outbreaks



The crux of the issue

- n Our primary concern
 - prevention of spread of bacterial strains among hospitalised patients

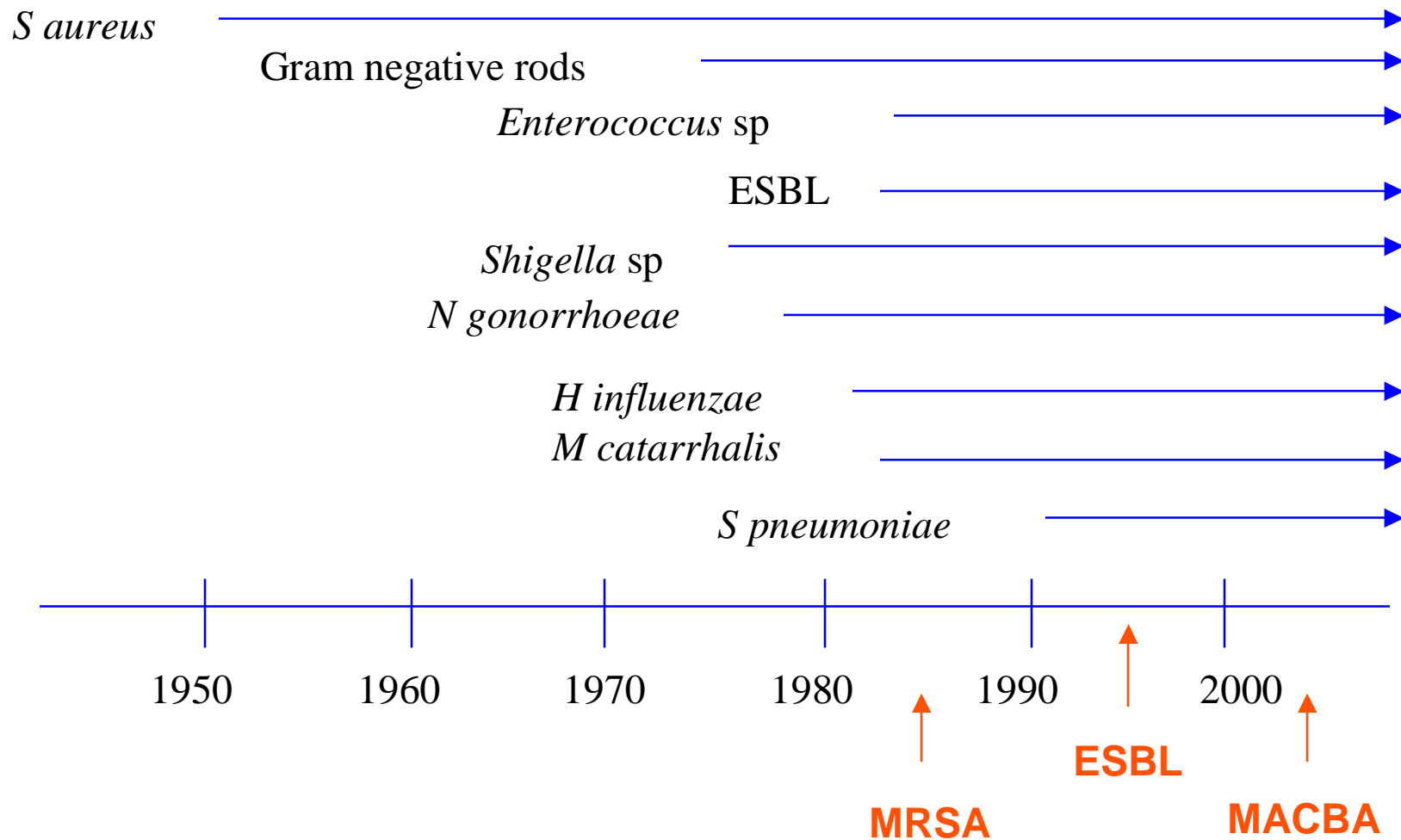




The facts

- n Multiply resistance
 - rapidity in development
 - increasing incidence
 - nosocomial outbreaks
 - nightmare

Are we doing better in controlling the problem?

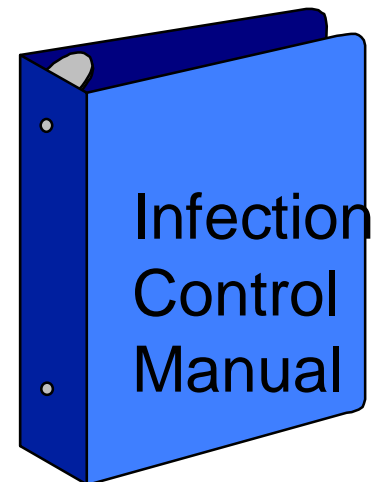


Lessons from experiences with MRSA control

- n First isolated in Singapore
 - mid 1980s
- n 1986 - top pathogen, MRSA register

Infection Control

- n 1990 - Infection Control Manual updated
 - MRSA precautions
 - HIV infection
 - in-service education of all new medical and nursing staff



Infection Control

- n 1991 - round yellow discs as MRSA indicators on beds, case sheets, monthly MRSA feedback to clinical heads
- n 1995 - computer alert, MRSA cohort wards
- n 1997 - liaison nurses training, quarterly meeting

MRSA precautions

- n Strict isolation / cohorting
- n Contact precautions
- n MRSA register
- n Notification
- n Nasal screening for those with previous history of MRSA
- n Nasal screening for clearance

Failure to isolate /cohort

- n Insufficient beds to cohort all medical cases - only 16 beds in cohort ward of SGH
- n No cohort areas for surgical cases
- n Multiple patient transfers because of change in discipline
- n Difficulty in patient identification: computer system not linked for in- and out-patient: MRSA cases not identified

Increases in MRSA cases

n Routine screening

- cases referred to long term care facilities
- patients on IJ and Tenckhoff catheter
- weekly screening of urine, CVL exit sites, blood and throat swabs of all BMT patients
- all Burns patients

National MRSA precautions - revised (1998)

- n Isolating or cohorting MRSA patients:
 - pneumonia
 - wounds that cannot be adequately covered with sealed dressing
 - exfoliative dermatitis

- n **STOP** all routine screening for clearance and carrier status for re-admitted MRSA cases

Facts on MRSA in Singapore

- n Rational isolation precautions policy
 - isolating heavy MRSA dispersers
 - Standard Precautions
 - Contact Precautions

- n Cost-effective infection control measures

- n MRSA is an endemic problem in Singapore
 - acceptance of fact



What really works

- n Strict isolation during SARS period
- n Good hand hygiene practice during and post-SARS

Lessons from MRSA management



- n There is nothing you can do if you miss the boat
- n Nip the bud early while you can
- n ISOLATE

Extended spectrum beta lactamases (ESBL)

- n Multiply resistant Gram negative bacteria
- n Antibiogram
 - resistant to all penicillins, cephalosporins
 - susceptible ONLY to carbapenem (imipenem or meropenem)



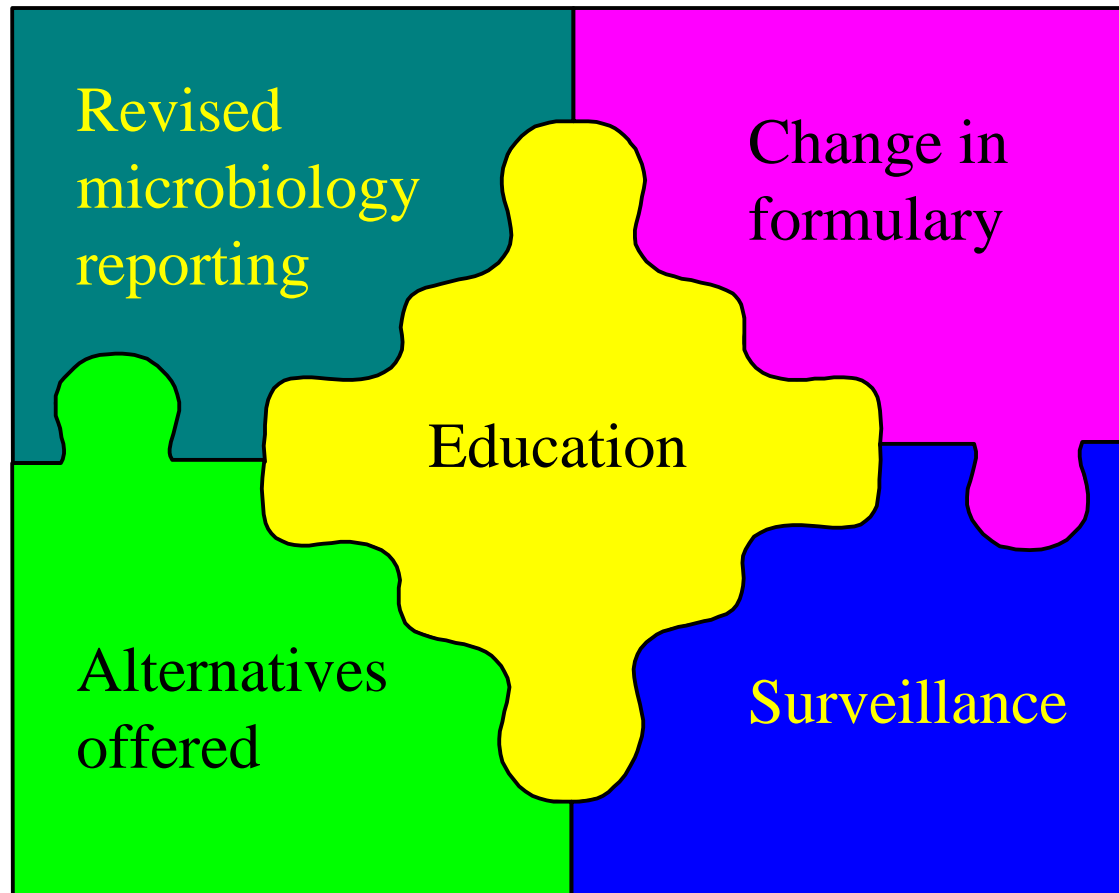
Lessons from control of ESBL

- n First reported in literature in 1983 in world
- n Singapore - first looked for in 1995

ESBL Control Workgroup at SGH

- n Chairman of Medical Board
- n Chairman, Pharmacy & Therapeutics
- n Snr Consultant, Anaesthesia
- n Infectious Disease Physician
- n Chairman, Infection Control Committee
- n Infection Control Officer
- n Manager, Pharmacy

Strategies





Advantages

- n Multi-prong approach
- n Avoid squeezing the balloon
- n Top management support

Lessons learnt

- n Team approach
- n Multi-prong strategy
- n Top management support
- n Physician buy-in
- n **Difficult to sustain**

mACBA

n Antibiogram

- multiply resistant *Acinetobacter baumannii*
- susceptible ONLY to Polymyxin B

n Similar epidemiology as MRSA

Control measures

- n Similar strategy as for ESBL control
- n Wider commitment and involvement of Clinical Heads
- n Regular feedback
- n Ongoing education - posters, etc



Antibiotic Resistance

- n Not an issue for committees
 - infection control
 - P&T

- n **EVERYONE** has a part to play
 - team approach



Conclusion

- n Control of antimicrobial resistance is an ongoing challenge
- n Multi-prong strategy
- n Success guaranteed with teamwork using quality improvement methodology